

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1, 3-7 and 9, 11-15 are presently active in this case, Claims 1, 3, 7, 9, and 11 amended, and Claims 2 and 10 canceled by way of the present amendment.

In the outstanding Office Action, Claims 1-7 and 9-15 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite; Claim 9 was rejected under 35 U.S.C. 102(b) as being anticipated by U.S. 5,266,119 to Taniguchi et al.; Claims 1-7 and 9-15 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 2004/0035364 to Tomoyoshi et al. in view of Taniguchi et al.; Claims 1-2 and 9-10 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 5,980,687 to Koshimizu in view of Taniguchi et al.; Claims 3-7 and 11-15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Koshimizu in view of Taniguchi et al., and further in view of U.S. 5,647,912 to Kaminishizono et al. or U.S. 7,147,749 to Nishimoto et al. or Tomoyoshi et al.

First, Applicants wish to thank Examiner Alejandro for the February 18, 2010 personal interview at which time the outstanding issues in this case were discussed. During the interview, amendments and arguments substantially as indicated in this response were discussed. While no agreement was reached as to allowance of the claims, Examiner Alejandro indicated that the amendments and arguments presented herein would overcome the outstanding rejection, but further search and consideration would be needed. Accordingly, a Request for Continued Examination (RCE) is filed herewith.

With respect to the claim rejections under 35 U.S.C. 112, as discussed in the interview, the term “predetermined vacuum level” recited in Claims 1 and 9, respectively, is deleted by way of the present amendment. Therefore, it is respectfully requested that the claim rejection under 35 U.S.C 112 should be withdrawn.

Turning now to the merits, in order to expedite issuance of a patent in this case, Applicants have amended Claims 1 and 9 to clarify the patentable distinctions over the cited references. Specifically, amended Claim 1, relates to a plasma processing apparatus including a vacuum chamber accommodating therein a substrate to be processed, allowing an inner space of the vacuum chamber to be maintained at a vacuum level. A first electrode is fixedly disposed at a location in the vacuum chamber, a second electrode installed in the vacuum chamber and facing the first electrode, the second electrode being vertically movable so as to vary a distance between the first electrode and the second electrode. Also recited is a driving mechanism for vertically moving the second electrode, the driving mechanism being installed outside the vacuum chamber. Also included is a bellows unit for airtightly sealing an opening, the bellows unit having an upper bellows portion, a lower bellows portion, and a ring member connected to the driving mechanism, wherein the opening, through which the second electrode is driven by the driving mechanism via the ring member, is provided at the vacuum chamber, and the ring member is disposed between the upper bellows portion and the lower bellows portion, the bellows unit being connected to the first electrode. An electrode supporting member is for supporting the second electrode and connecting the ring member to the second electrode, the entire electrode supporting member being installed in the inner space of the vacuum chamber, and a high frequency power source generating plasma by supplying a high frequency power between the first electrode and the second electrode. Further, the upper bellows portion and the lower bellows portion are oppositely extended and contracted in accordance with a vertical movement of the ring member while maintaining a constant total length of the bellows unit, and the first electrode and the second electrode are a lower electrode and an upper electrode, respectively.

Thus, as discussed in the February 18th interview, amended Claim 1 recites the features:

- 1) the bellows unit is connected to the lower electrode, and
- 2) the driving mechanism moves the upper electrode.

Claim 9 recites similar features. In this regard, as discussed in the interview, the cited references to Taniguchi et al., Tomoyoshi et al., Koshimizu, Kaminishizono et al. and Nishimoto et al. are completely silent on the above-features 1) and 2) of the present invention. Thus, the present invention recited in Claims 1 and 9 has distinguishable features over the cited references. This alone provides patentability of the claims.

Further, however, the Office Action indicated that the claimed electrode supporting member corresponds to a reference item 51 and 7 of Taniguchi et al., and the Examiner indicated during the interview that the electrode supporting member may also correspond to a reference sign 9 of Taniguchi (US 5,266,119), or the bottom part of electrode 2 of Tomoyoshi (US 2004/0035364). However, the claimed electrode supporting member has the features that the electrode supporting member connects the ring member to the second electrode, and the entire electrode supporting member is installed in the inner space of the vacuum chamber. By contrast, reference 51 of Taniguchi et al. is merely a heater, and, the items 7 and 9 of Taniguchi et al. and the bottom part of electrode 2 of Tomoyoshi do not have the claimed feature that the electrode supporting member connects the ring member to the second electrode. Therefore, it is submitted that the claimed electrode supporting member does not correspond to the reference sign 9 of Taniguchi et al. and the bottom part of electrode 2 of Tomoyoshi. This provides an additional basis for patentability over the cited references.


For the reasons stated above, it is respectfully requested that the rejection under 35 U.S.C 103 of Claims 1 and 9 be withdrawn.

It is believed that Claims 3 to 7 and 11 to 15 which are indirectly or directly dependent from the amended Claim 1 and the amended Claim 9, respectively, are allowable for the same reasons indicated with respect to the amended Claim 1, and further because of the additional features recited therein which, when taken alone and/or in combination with the features recited in the amended Claims 1 and 9, remove the invention defined therein further from the disclosures made in the cited references.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application and the present application is believed to be in condition for allowance. Therefore, an early and favorable action is respectfully requested.

Respectfully submitted,

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